

## TABLE OF CONTENTS

	Page
<b>COVER</b>	
<b>FINAL PROJECT AUTHENTICITY STATEMENT</b>	
<b>FINAL PROJECT SUPERVISOR'S APPROVAL</b>	
<b>FINAL PROJECT EXAMINER PANEL'S APPROVAL</b>	
<b>ABSTRACT .....</b>	<b>iv</b>
<b>ABSTRAK .....</b>	<b>v</b>
<b>FOREWORD .....</b>	<b>vi</b>
<b>TABLE OF CONTENTS.....</b>	<b>ix</b>
<b>LIST OF FIGURES .....</b>	<b>xiii</b>
<b>LIST OF TABLES .....</b>	<b>xiv</b>
<b>LIST OF DIAGRAMS.....</b>	<b>xvi</b>
<b>LIST OF APPENDICES .....</b>	<b>xvii</b>
<b>CHAPTER I INTRODUCTION .....</b>	<b>1</b>
1.1 Background .....	1
1.2 Research Questions .....	5
1.3 Research Purpose .....	5
1.4 Benefits .....	5
1.5 Explanation of Terms .....	6
<b>CHAPTER II LITERATURE REVIEW .....</b>	<b>8</b>
2.1 The Nature of Learning Mathematics .....	8
2.2 Conceptual Understanding.....	9
2.2.1 Term Definition.....	9

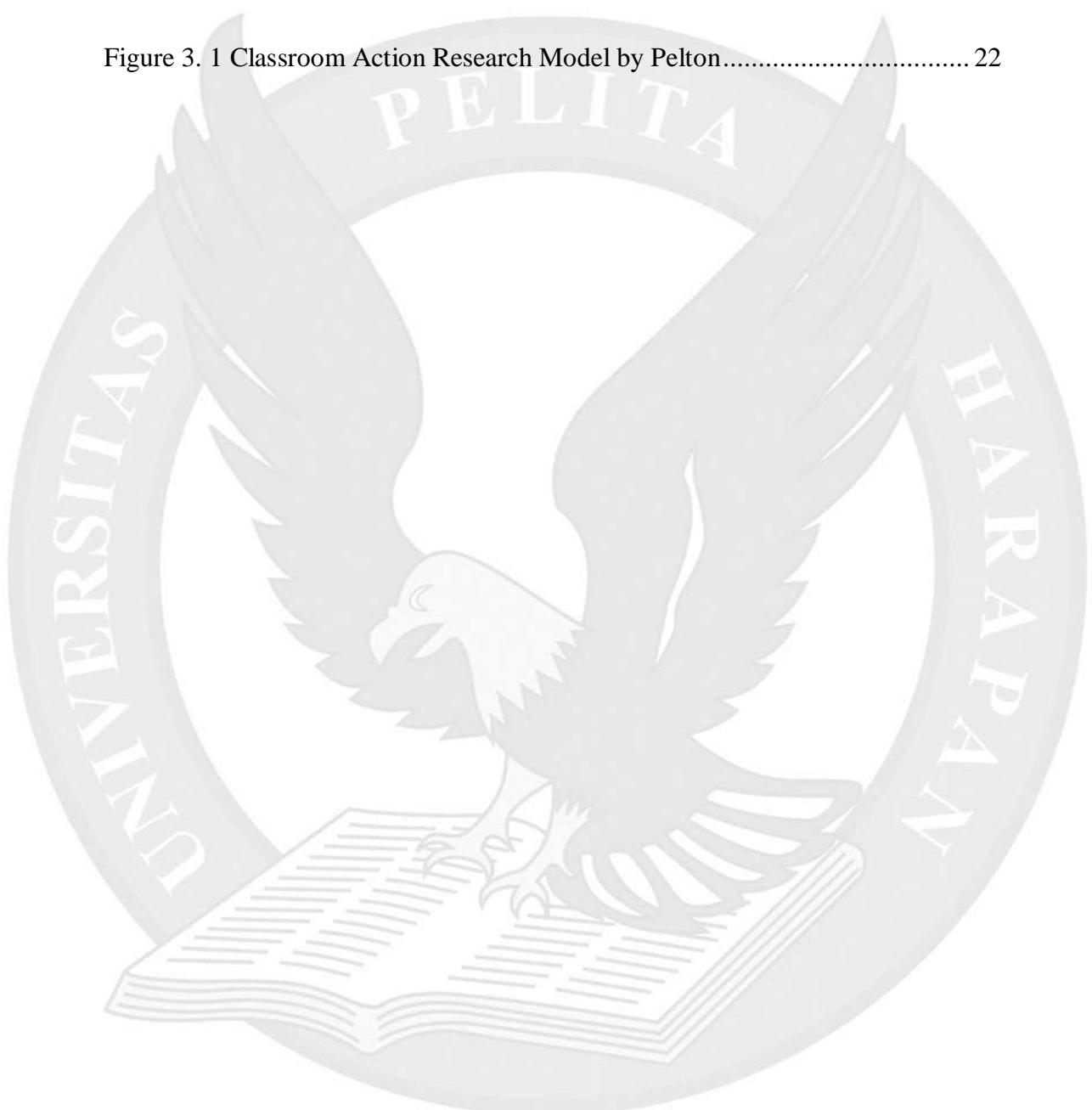
2.2.2 Definition of Conceptual Understanding.....	9
2.2.3 Indicator of Conceptual Understanding.....	10
2.2.4 The importance of Conceptual Understanding .....	11
2.3 Quadratic Equation and Function .....	13
2.4 Concept Attainment Model (CAM) .....	14
2.5 Reception-Oriented Concept Attainment Method .....	15
2.5.1 Definition of Reception-Oriented CAM.....	15
2.5.2 Steps of Reception-Oriented CAM .....	16
2.5.3 Social System of Reception-Oriented CAM.....	17
2.5.4 Effectiveness of Concept Attainment Model.....	18
2.6 Worksheets.....	19
2.7 Interconnection of Variables.....	20
<b>CHAPTER III RESEARCH METHOD .....</b>	<b>22</b>
3.1 Classroom Action Research Model .....	22
3.1.1 Issue Identification .....	23
3.1.2 Data Collection .....	23
3.1.3 Action Planning.....	23
3.1.4 Plan Activation.....	23
3.1.5 Outcome Assessment .....	24
3.2 Subject, Location, and Time of Research .....	24
3.3 Research Procedures .....	25
3.3.1 Issue Identification .....	25
3.3.2 Data Collection .....	25
3.3.3 Action Planning.....	25

3.3.4 Plan Activation.....	26
3.3.5 Outcome Assessment .....	27
3.4 Data Instrument .....	27
3.4.1 Test Sheet.....	28
3.4.2 Method Observation Rating Scale .....	28
3.4.3 Mentor and Colleague Feedback.....	29
3.4.4 Documentation.....	29
3.5 Triangulation .....	29
3.6 Data Analysis Technique.....	30
<b>CHAPTER IV ANALYSIS AND DISCUSSION.....</b>	<b>33</b>
4.1 Issue Identification .....	33
4.2 Data Presentation .....	34
4.2.1 Action Planning 1.....	34
4.2.2 Plan Activation 1.....	34
4.2.2.1 Data Presentation of Reception-Oriented CAM Variable .	36
4.2.2.1.1Method Observation Sheet .....	36
4.2.2.1.2Mentor and Colleague Feedback .....	36
4.2.2.2 Data Presentation of Conceptual Understanding Variable	37
4.2.2.2.1Lesson Plan of Plan Activation 1.....	37
4.2.2.2.2Formative Test 1 .....	37
4.2.3 Action Planning 2.....	38
4.2.4 Plan Activation 2.....	39
4.2.4.1 Data Presentation of Reception-Oriented CAM .....	41
4.2.4.1.1Method Observation.....	41

4.2.4.1.2Mentor and Colleague Teacher Feedback .....	41
4.2.4.2 Data Presentation of Conceptual Understanding .....	41
4.2.4.2.1Lesson Plan of Plan Activation 2.....	41
4.2.4.2.2Formative test 2 .....	42
4.3 Outcome Assessment .....	43
4.3.1 Reception-Oriented CAM Implementation with worksheets.....	43
4.3.2 Students' Conceptual Understanding Analysis and Reflection.....	46
<b>CHAPTER V CONCLUSION AND RECOMMENDATION .....</b>	<b>49</b>
5.1 Conclusion .....	49
5.2 Recommendation.....	50
<b>REFERENCES .....</b>	<b>51</b>
<b>APPENDICES.....</b>	<b>55</b>

## **LIST OF FIGURES**

	Page
Figure 3. 1 Classroom Action Research Model by Pelton.....	22



## LIST OF TABLES

	Page
Table 1 Reception-Oriented CAM Steps .....	6
Table 2. 1 Phases of Reception-Oriented CAM by Weil J and Joyce (1978).....	16
Table 2. 2 Steps of Reception-Oriented CAM by Khirwadakar (2007).....	16
Table 2. 3 Phases of Reception-Oriented CAM by Eggen and Kauchack (2012)	17
Table 2. 4 Steps of Reception-Oriented CAM Used of The Research .....	17
Table 3. 1 Research Timeline.....	24
Table 3. 2 Latticework of Test Sheets .....	28
Table 3. 3 Latticework of Reception-Oriented CAM Observation Sheets .....	29
Table 3. 4 Lattice of Main Instrument .....	30
Table 3. 5 Coding Frame of Each Variable.....	32
Table 4. 1 Issue Identification Timeline .....	33
Table 4. 2 Issue Identification Formative Test Analysis .....	33
Table 4. 3 Group Division.....	34
Table 4. 4 Reception-Oriented CAM Observation Sheet Analysis .....	36
Table 4. 5 Mentor and Colleague Feedback Summary of Plan Activation 1.....	36
Table 4. 6 Students' Diagnosis of Plan Activation 1 .....	37
Table 4. 7 Formative Test Result of Plan Activation 1 .....	37
Table 4. 8 Analysis, Comparison, and Upgrading Method Implementation .....	38
Table 4. 9 Reception-Oriented CAM Observation Analysis of Plan Activation	241
Table 4. 10 Mentor and Colleague Teacher Feedback in Plan Activation 2 .....	41
Table 4. 11 Students' Diagnosis of Plan Activation 2.....	42
Table 4. 12 Formative Test Result of Plan Activation 2.....	42

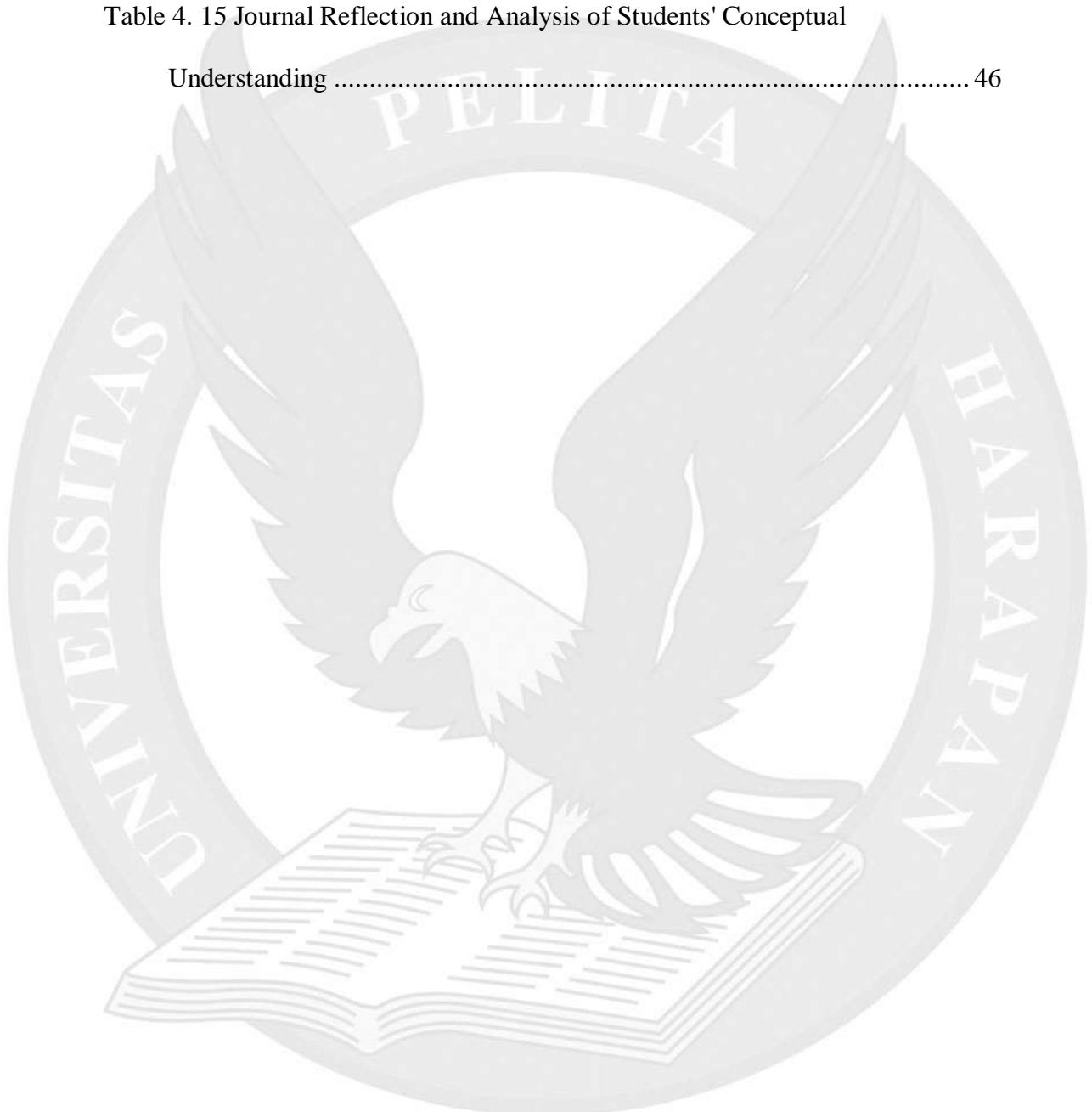
Table 4. 13 Journal Reflection and Analysis of Reception-Oriented CAM

Implementation with Worksheets ..... 43

Table 4. 14 Reception-Oriented CAM Recapitulation ..... 45

Table 4. 15 Journal Reflection and Analysis of Students' Conceptual

Understanding ..... 46



## **LIST OF DIAGRAMS**

	Page
Diagram 4. 1 Students' Conceptual Understanding Improvement .....	47
Diagram 4. 2 Average Comparison of Indicators from Plan Activation 1 and 2 ..	48



## **LIST OF APPENDICES**

	Page
Appendix 1 Data Collection Permission Form .....	55
Appendix 2 Formative Test Validation .....	56
Appendix 3 Reception-Oriented CAM Validation.....	59
Appendix 4 Lesson Plan of Plan Activation 1 .....	61
Appendix 5 Lesson Plan of Plan Activation 2 .....	65
Appendix 6 Quadratic Equation and Function Analysis .....	70
Appendix 7 Seating arrangement of Plan Activation 1 .....	72
Appendix 8 Seating arrangement of Plan Activation 2 .....	72
Appendix 9 Power point Slides of Plan Activation 1 .....	73
Appendix 10 Power point Slides of Plan Activation 2 .....	76
Appendix 11 Plan Activation 1 Observers' Method Observation: Reception- Oriented CAM.....	77
Appendix 12 Plan Activation 2 Observers' Method Observation: Reception- Oriented CAM .....	79
Appendix 13 Plan Activation 1 Mentor Feedback: Reception-Oriented CAM ....	81
Appendix 14 Plan Activation 2 Mentor Feedback: Reception-Oriented CAM ....	82
Appendix 15 Plan Activation 1 Colleague Feedback: Reception-Oriented CAM	83
Appendix 16 Plan Activation 2 Colleague Feedback: Reception-Oriented CAM	84
Appendix 17 Reflection of Plan Activation 1 .....	85
Appendix 18 Reflection Plan Activation 2 .....	87
Appendix 19 Sample of Formative Test in Issue Identification Step.....	89
Appendix 20 Sample of Plan Activation 1 Formative Test Result .....	90

Appendix 21 Sample of Plan Activation 2 Formative Test Result .....	94
Appendix 22 Sample of Worksheet Result .....	95
Appendix 23 Plan Activation 1 Method Observation Analysis .....	102
Appendix 24 Plan Activation 2 Method Observation Analysis .....	102

